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(74) Agent: **BARRETT, Michael, C.; Fulbright & Jaworski, L.L.P., Suite 2400, 600 Congress Avenue, Austin, TX 78701 (US).**

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(71) Applicant (*for all designated States except US*): **THE UNIVERSITY OF TEXAS SYSTEM [US/US]; Board Of Regents, 201 W. 7th Street, Austin, TX 78701 (US).**

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(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **ROCHELLE, Gary [US/US]; 10103 Vaquero Trail, Austin, TX 78759 -- (US). CULLINANE, John [US/US]; 2801 Wells Branch, Apt. #1334, Austin, TX 78728 (US).**

(54) Title: POLYAMINE/ALKALI SALT BLENDS FOR CARBON DIOXIDE REMOVAL FROM GAS STREAMS

(57) Abstract: Novel solvents and methods of use for the removal of CO₂ from flue gas, natural gas, hydrogen gas, synthesis gas, and other process and waste gas streams are provided. The solvent contains an alkali salt such as potassium carbonate and a polyamine such as piperazine (PZ) where the polyamine concentration is at least 1.5 equivalents/Kg H₂O and the alkali salt concentration is at least 0.5 equivalents/Kg H₂O. The preferred alkali salt/polyamine ratio is from approximately 1:2 to 2:1, and no additional alcohol is required for solubilizing the PZ. This chemical solvent and method of use provides efficient and effective removal of CO₂ from gaseous streams and other sources.

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